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This interim report on 1 project at the Berkeley Center for Research and Development in Higher Education deals with the construction of a theoretical model of the curricular-instructional subsystem. The relationship between student unrest and the poor quality of education in American colleges has long been evident to educational researchers. The project underway is based on the assumption that since the curricular-instructional process works as a system, we cannot change only 1 element in the system in any substantial way and expect the change to "take." Also, researchers don't understand what these interrelationships are or how they work and have not yet developed a language adequate for research. A new analytic language consisting of 3 structural and 3 implemental elements was thus developed. Each structural element is formally planned by a faculty group and constitutes a set of potentials. Implemental elements are unplanned and consist of sets of conditions under which structural elements are realized. It is necessary to understand that beyond the colleges and universities are hundreds of "supersystems" of which the institution is a part and which affect individuals, groups and activities at the institution. Thus, if reform of the curriculum and the instructional process is to be intelligently sought and have any chance of lasting success, more needs to be known about the workings of the entire System. (JS)

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CURRICULAR CHANGE: A MODEL FOR ANALYSIS

Joseph Axelrod

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Curricular Change: A Model for Analysis

At the close of the 1964–65 academic year, the year of the Free Speech Movement on the Berkeley campus, the Danforth Foundation's annual report stated: "Nearly every discussion of student unrest points out the relation of that problem to the poor teaching that is often found on college and university campuses."

This relationship between student unrest and the poor quality of education in the nation's colleges could be pointed out publicly once student unrest had attained high visibility, but the relationship had been obvious, long before 1964, to researchers in higher education. The mass of research done in the 1950's, culminating in Nevitt Sanford's *The American College* (1962), was tellingly summarized by Sanford in his introduction: "American colleges are failing rather badly. They fail to achieve their own stated purposes; and they fail by other reasonable standards of accomplishment." Clark Kerr (1963), in his Godkin lectures which were delivered at approximately the same time, called for a renovation of undergraduate teaching. And a vast amount of other data concerning the impact of colleges on students (Jacob, 1957; Freedman, 1960; McConnell and Heist, 1962; Dressel and Lehmann, 1965 Trent and Medsker, 1968; Feldman and Newcomb, 1969) all points in the same direction: it reflects a failure that was already visible in the late 1950's. The failure had already become visible, in other words, at just about the time the current student activist movement, according to two of its closest observers (Katz, 1967; Flacks, 1968) was emerging. In March 1958, in a statement in the *Cal Reporter*, SLATE announced its platform at the Berkeley campus and stated as its objectives:

> We will be concerned with students as citizens in society—with their involvement with national and international issues. We will be concerned with education—with whether or not the University helps us to be open-minded, thinking individuals. We ask only a fair hearing in the open marketplace of ideas.

The general failure of the American college and its relationship to student unrest is described in another way by Donald R. Brown (1967). He begins his analysis of the situation by enumerating students' expectations when they come to college: intimate contact with faculty and peers, a sense of community, the hope for deep interpersonal communication, true intellectual stimulation. All of these conditions, Brown says, "can make for an exciting student body," but "they can also make a restless college if the institution is not ready to meet these hopes." Brown's assumption is that if students' expectations are not met through structures that are set by the faculty, then students themselves "quite naturally will seek ways of interacting that are not necessarily congruent with the purposes of the university."

In 1964–65, a survey of 849 accredited four-year educational institutions conducted by Richard E. Peterson (1966) showed that conclusions about the relationship between student unrest and curricular-instructional failure did not apply merely to the handful of colleges and universities which had attracted the attention of television networks and newspapers. Peterson's data show that in over a fourth of the colleges included in his survey, demonstrations by students had involved curricular-instructional issues. And even where student protests had focused on non-campus issues (civil rights, for example), students might also have been expressing, even without knowing it, a desire and a need for curricular reform.

During recent years recognition of curricular-instructional inadequacy in American colleges has become almost universal. This condition is reflected in a statement that prefaces the 42 reforms recommended by the Muscatine Report (1966): "We sense that we are a part of a great national—and international—development, the response to an historical crisis in higher education." But the end of the story is everywhere the same: reforms are instituted and all too often do not seem to "take."

Why does the story typically end this way?

Several research projects at the Center for Research and Development in Higher Education have been investigating this problem. One of these projects, directed by the writer, has as its point of departure the following assumption: Since the curricular-instructional process works as a system, we cannot change only one element in the system in any substantial way and expect the change to "take." There is a certain reciprocity between each element in the system and all of the other elements (although each has a certain autonomy, too), and before we can successfully reform one aspect of the process we must understand profoundly the connections between it and the other elements in the system.

The project began with a second assumption, as well: that researchers and practitioners do not as yet understand what these interrelationships are or how they "work" and have not yet developed a language that is adequate for the analysis we need. Failing such a theoretical framework, we are not able to think through our problems except on a trial-and-error basis. It is as though we were spending our time determining which rain-dance choreography and which style of costume for our dancers were likely to bring water to the parched soil, when a reformer points out that in his opinion neither of those factors plays a significant role but suggests we institute a more rigorous set of standards governing the rain dance performances. The suggestion sounds good (there is general agreement that more rigorous standards *ought* to help) and so another "experiment" is instituted, resulting in yet another set of inconclusive data.

THE SIX CURRICULAR-INSTRUCTIONAL ELEMENTS

The project directed by the writer began therefore by developing a new analytic language in the field of curriculum and instruction. In that language, curriculum and instruction, taken together, constitute a single subsystem. In its relationships to certain other subsystems—say, the student culture—the curricular-instructional subsystem constitutes part of the larger system we call a college or university. In turn, the college or university, as it relates to other similar systems, constitutes an element in a vast number of larger systems (which we shall briefly describe presently) that together constitute the Higher Education Establishment.

The major aim of the project was to develop a theoretical model of the curricular-instructional subsystem. The model has six elements, three of them structural and three of them implemental. The elements called structural are formally planned by a faculty group before they enter the world of existence. Each such element, in its paper reality, constitutes a set of potentials. An implemental element, on the other hand, is an informal structure that is normally neither planned nor committed to paper—it is, rather, a set of conditions under which the structural elements come to be realized.

The three structural elements are:

ELEMENT I—CONTENT. The kinds of knowledge that are formally transmitted to the student as he moves from entrance into the system to its exit. These may include facts and principles, skills and abilities, attitudes and values—in short, everything that a student is expected to acquire or master or internalize in order to earn his degree.

In describing ELEMENT I, the key question is: What principles determine a) which knowledge is included in the program, b) the order in which it is to be acquired, and c) the levels of complexity to be reached?

ELEMENT II—SCHEDULE. The arrangements by which groups of learners gather together with one or more college officers to take part in the transmission of knowledge.

In describing ELEMENT II, the key question is: What principles determine who and how many get together with whom, when, how often, where, and for how long?

ELEMENT III—CERTIFICATION. The arrangements by which students are judged, during their progress toward the degree, and finally certified as having fulfilled the minimal expectations.

In describing ELEMENT III, the key question is: Who performs the judgments that are needed, when, and on the basis of what principles?

These three structural elements remain static entities with only paper reality until they combine with the implemental elements. The structural elements as they are described in the theoretical model, are sets of limitless numbers of potentials. When they enter paper reality in a specific academic plan, they take on a given "nature"—which is determined by the specific answers given to the key questions listed above—and the possibilities for their realization are *limited* by that nature. In addition, the possibilities for their realization are further limited by the conditions under which they come to be realized. These conditions are set by the three implemental elements. When the six elements combine, the total dynamic process that *is* the curricular-instructional subsystem comes into existential reality.

The three implemental elements are:

ELEMENT IV—GROUP/PERSON INTERACTION. The relationships between each member of a teaching/learning group and all other members of the group. (This includes also the relationships between the group itself, as an organismic entity, and each of its members.)

In describing ELEMENT IV, the key questions are: What teaching/learning roles, or other roles are played? When, and by whom? How are they manifested? Do they change or remain relatively constant? If they change, for what reasons and under what circumstances?

ELEMENT V—STUDENT EXPERIENCE. The relationships between the student and the world that exists outside the teaching/learning group—i.e., between the student and the symbols, objects, and people in that world—that come into being as a result of the structures of ELEMENTS I, II, and III.

In describing ELEMENT V, the key questions are: What sorts of experiences (outside the teaching/learning campus group of which the student is a member) is the student expected to undergo? What is their nature, their range, their site? What principles determine which sorts of experiences are appropriate—and therefore the ones to be encouraged and rewarded?

ELEMENT VI—FREEDOM/CONTROL. The authority/responsibility syndrome.

In describing ELEMENT VI, the key questions are: In the curricular-instructional process, who has (or takes, or is given) responsibility for making what decisions? On the basis of what principles? —i.e., what determines who decides what? Who has (or takes, or is given) power over which aspects of the process? Who rewards or punishes whom, and for what?

EXPLORING INTERRELATIONSHIPS AMONG THE MOVING PARTS

The project, early in its life, moved in two directions simultaneously. An attempt was made to find a way to describe the individual elements—the moving parts of the model—in terms of *possible* shapes, while at the same time an attempt was being made to investigate how each element moved in relation to the movements of the other five elements—i.e., to discover which shapes "go" with which others. As illustration, let us assume for a moment that each element is capable of taking a dozen different shapes. For Element A, it so happens that six of these shapes are attractive and six are unattractive to a faculty planning a new academic program. One of these is Shape 4, which the planning group contemplates adopting. Upon analysis, however, it turns out that Shape 4 for Element A limits the possibilities for Element B to Shapes 7 and 9 only—and neither Shape 7 nor Shape 9, for Element B, the planning group decides, is acceptable to them. The result is that Shape 4 for Element A, regardless of how attractive it appears when it is considered *per se*, must be rejected.

As a consequence of observations made at this early stage of the project, it became clear that an analysis based on the systems approach would *force* the investigator to ask certain questions about

THE FIFTEEN MAJOR QUESTIONS

—and ELEMENT	Interrelationships between ELEMENT					
	I CONTENT	II SCHEDULE	III CERTIFICATION	IV INTERACTION	V EXPERIENCE	VI FREEDOM
I CONTENT		1	2	3	4	5
II SCHEDULE	1		6	7	8	9
III CERTIFICATION	2	6		10	11	12
IV INTERACTION	3	7	10		13	14
V EXPERIENCE	4	8	11	13		15
VI FREEDOM	5	9	12	14	15	

The approach set forth in the project described here forces the investigator to begin by posing fifteen major questions about interrelationships between each of the six elements in the curricular-instructional subsystem and every other element in the subsystem.

the connections between each of the elements in the curricular-instructional subsystem and all five of the others. As an initial step, he would have to ask fifteen questions about these interrelationships. These fifteen questions can be seen at a glance in the accompanying chart. There are, of course, alternative modes of formulating these questions. The two parts of Question 1 (in the chart, half of the question appears above the diagonal and half appears below), for example, might be formulated as follows:

***Part A*—How do decisions about certain recommendations for changes in CONTENT (e.g., a shift from a facts-and-principles emphasis in a general education course in the humanities to a skills-and-abilities emphasis) affect the time and length of class meetings, the number assigned to a teaching/learning group, the disposition of faculty, the use of workshop space and personnel, etc.?**

***Part B*—In what ways does a given schedule system (including times, spaces, and student-faculty logistics) *limit* possible developments in CONTENT for a set of experimental courses designed for freshmen students?**

This double question can be specifically illustrated by a problem brought to the Danforth Workshop on Liberal Arts Education in the summer of 1968 by one of the liberal arts college teams participating. The reform concerned a freshman composition course. In the summer of 1967, the college had decided to replace its plan for teaching English composition to freshmen (Plan X) with a new plan (Plan Y). But Plan Y had not "worked" and the Workshop team proposed to discover what had gone wrong. Analysis revealed that although the English staff did not like Plan X, it fit the standard schedule system perfectly. It was possible of realization—and even of achieving "excellence" within its limited range—with 50-minute, three-times-per-week periods. Plan Y, on the other hand, required for its realization a combination of different class periods —e.g., 30-minute sessions for certain of its purposes (those that could best be met by drill-type exercises) and three-hour sessions for certain other purposes (specifically, those that could best be met by arranging weekly panel discussions in which figures from the off-campus community participated).

But this was by no means the whole story. For its realization Plan X required for space nothing more than comfortable r[illegible]-places on campus; almost any type of room would do. Plan Y, however, for certain of its sessions, required several kinds of space, both on campus and off, designed for small-group give-and-take. Moreover, while Plan X involved only the grouping of freshman students, Plan Y involved seniors as well, for it required each senior in the English Department to meet with a group of freshmen in seminar as part of the senior's own work. And further, Plan X required only one faculty member per student group, while Plan Y, for certain of its sessions required more than one ("faculty panel" sessions, for example) and for certain others none at all.

Plan Y had been adopted with enthusiasm, but it lasted for only one year. The changes in the conception of CONTENT (ELEMENT I) required changes in SCHEDULE (ELEMENT II) to which the whole system, it turned out, could not accommodate itself. It is thus often the case that the limitations of one element in the curricular-instructional subsystem reduce the possibilities that are effectively open for adoption by a faculty that wishes to reform its curriculum and its teaching strategies.

The reader may now wish to test himself—and the scheme—by formulating the question numbered 10 in the chart, interrelations between ELEMENT IV (group/person interaction in the teaching/learning process) and an aspect of ELEMENT III (the grading system, for example). Or he might want to try the even more difficult case of the question numbered 15. Properly formulated, that question would provide guidance in exploring interrelationships between any given freedom/control syndrome pervading a campus (ELEMENT VI) and the range of experiences that are encouraged and rewarded as students make their way toward the degree (ELEMENT V)—experiences with learning via books, television and films, the computer, live performances, the community, deviant cultures, and foreign civilizations; experiences involving objects and symbols only, or human beings as well; experiences with nonverbal phenomena and irrational states, or conceptual and rational frameworks only. If Question 15, suggesting the exploration of interrelationships between only two of the elements in the subsystem, is so complex, it is staggering to contemplate the task of analysis that awaits the investigator when he attempts to analyze the total scheme. For he must ultimately shed light on the interrelationships between and among all six elements as all six of them simultaneously interact when the model is in "motion."

But even as he makes that analysis, the investigator must constantly be on guard against looking at the curricular-instructional subsystem as an independent universe. It is part of networks of larger systems and it, in turn, is affected by them. And those interrelationships, too, are exceedingly complex. The most important feature is the constantly dynamic quality of the total, which makes cause-and-effect relationships so difficult to trace. Organizational charts notwithstanding, change does not take place linearly. To envisage how it does take place, imagine a hydraulic system of many interrelated pipes filled with l[illegible]id: any increase in pressure anywhere in the system increases the [illegible]essure *on all other parts of the system,* often forcing a break in a[illegible]as where it may be totally unexpected. As an example, the consequence of inserting a new freshman curriculum into the "system" may result in a new statement on tenure or promotion practice, or a new advising system.

SYSTEMS AND SUPERSYSTEMS

Beyond the colleges and universities, there are the supersystems. A number of studies under way at the Center for Research and Development in Higher Education are analyzing these larger systems and their effect on individual institutions. It is not the object here to summarize these projects, but for a proper perspective on the curricular-instructional subsystem, we should describe briefly the nature of these supersystems.

Without attempting to be exhaustive, let us mention four supersystems of which the individual college or university is a part and which, in turn, affect its subsystems—including the curricular-instructional subsystem. One of these supersystems consists of all the organizations and associations that represent people participating in college and university life. There are different populations that inhabit the academic world—students, professors, academic deans, trustees, personnel officers, campus ministers, etc.—and organizations of untold number exist which represent the *group interests* of segments of these populations. Such are the AAUP or NSA; NCTE or AGPA; AGB, BSU, or AAHE; and hundreds of others.

A second supersystem consists of the non-profit organizations and associations that have been given (or have taken) responsibility for implementing higher educational goals, but are not themselves colleges or universities. Examples include government agencies authorized to fund campus programs, educational foundations, associations of colleges and universities that represent the overall interests of American higher education, various groups of colleges and universities which represent special segments of the educational establishment (such as medical schools, or Southern schools, or state colleges in California), etc. This supersystem is especially influential in affecting the curricular-instructional subsystem of individual institutions, since certain organizations within it establish degree standards and accredit degree programs.

Another supersystem consists of the vast number of organizations in the world of commerce whose aims are educational. They plan and build campus buildings; they manufacture and sell equipment and supplies; they write, manufacture, and sell the programs designed for dissemination media (printing press, computer, film, television); they produce and sell the tests that determine entrances and exits into and out of colleges and universities for great masses of students. This supersystem wields enormous influence over the goals and structures of the American college and university.

Finally, there are those organizations, groups, and individuals who take (or are given) responsibility for formulating society's broad social goals, such as its plans and hopes for the disadvantaged, for our cities, for our senior citizens, for the race to the moon, for cold or hot war. One has only to read the essays by Edith

Green and Charles Frankel in *Current Issues in Higher Education 1968* to be aware of the enormous influence emanating from this supersystem and encompassing our colleges and universities—and in turn their subsystems, including curricular plans and instructional strategies.

BRINGING ON THE RAIN

When practitioners join together to reform an element in the curriculum or in instructional practice, they are becoming involved—to a greater or lesser extent—with a whole complex of things, with an entire galaxy of overlapping spheres, with the whole System. It is evident that the more they know about how the System "works," the more intelligent their reform will be—and the greater the chances will be for its success.

It is the researcher's responsibility to study various aspects of the System and to analyze how they "work." In this way he can be of the greatest help to the practitioner. But the researcher's experience has often been frustrating: he uncovers one layer only to find a hundred other layers; he tries to sift out one question and discovers that he cannot separate it from twenty others. And while the researcher digs away as systematically as he can, the practitioner becomes impatient. His problems cannot wait.

Perhaps this interim report on one project at the Center for Research and Development in Higher Education will help explain to the practitioner why it takes so long. At the same time, however, he must surely know that the researcher on curriculum cannot—and does not wish to—close his eyes to the urgency of student unrest. If it is true that student unrest is, among other things, a symptom of curricular-instructional failure, then reform in that subsystem is badly needed—and it is needed now. But obviously we must know as much as we can about how it "works." We need to see the connections more clearly than we see them now. It will do no good to develop a new rain-dance choreography or train better dancers until we can discover more accurately whether those changes will ultimately bring us the rain we so desperately need—the rain that will cool things off and, more important, will activate the nutrients our studies have shown are embedded in the parched soil.

JOSEPH AXELROD

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Governance and Factions – Who Decides Who Decides?

The title of this article is meant to describe a major dimension of campus goverance in a time when there is no longer general acceptance of the legitimacy of established authority. Governance structures which have long been hidden from scrutiny are now being made explicit, and the exposure is not always kind. Institutional loyalty seems to be of low importance, and governance by the accommodation of factions is the order of the day. Competitive factionalism is taking its toll in early presidential retirements and resignations, in a high number of administrative vacancies, and in the goals of academic people who once might have found the thought of moving into administration desirable. The problem is that most of these factions disagree over who is to be included in campus decision making. And the question beyond the problem is: Who is going to make decisions about which factions will be represented in the decision-making process?

This question is being studied in several research projects at the Center. This report is a preliminary review of the Campus Governance Project, undertaken by the American Association for Higher Education under the sponsorship of the Kettering Foundation, which has been investigating the ways in which institutions of higher education govern themselves. Nineteen typical campuses have been selected for study in this project, and more than 3,000 questionnaires and more than 900 intensive interviews from the 19 campuses are now in the final phases of analysis. It is now possible to present some general impressions about campus governance which have resulted from work in the project.

The basic question underlying the study is: What is the nature of governance? Is it organization charts? Is it committees? Or is it protests? Or decision making? The thesis of the study, of course, is that governance is many things—informal channels as well as formal channels, reason as well as emotion, individuals as well as groups, persuasion as well as power, decisions made as well as decisions avoided. Governance deals with the *problems perceived* by those who have some connection with the campus. The questionnaire used in the study was designed to identify these problems and to determine which individuals are considered to be knowledgeable and influential in dealing with them. The object